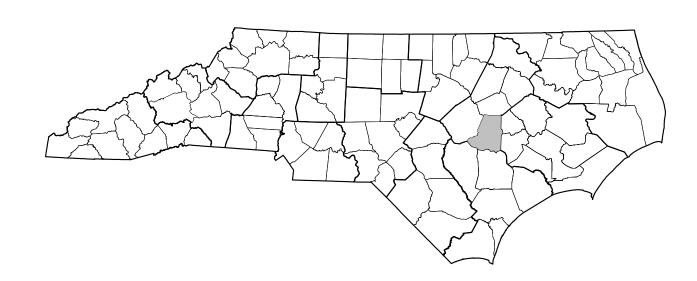
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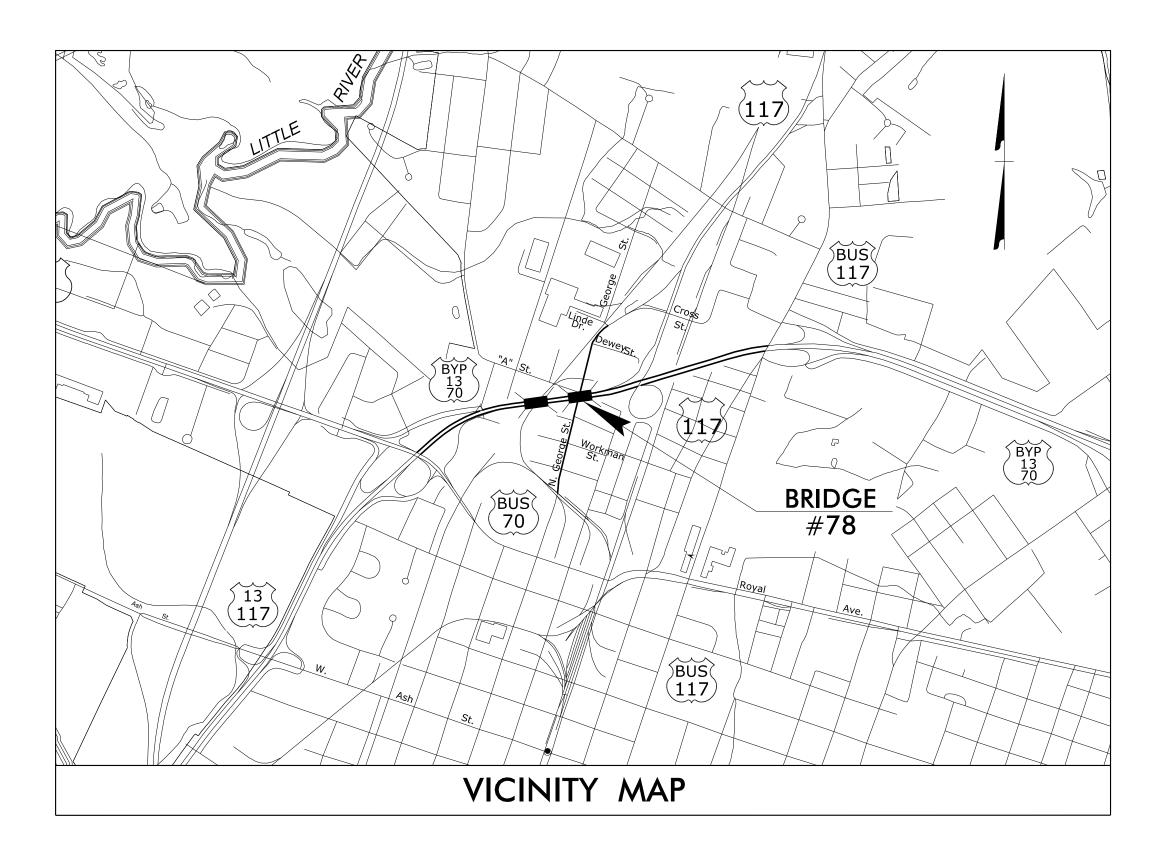
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# TRANSPORTATION MANAGEMENT PLAN

# WAYNE COUNTY DIVISION 4



# BRIDGE #78 – US 70 OVER NORTH GEORGE STREET



WORK ZONE SAFETY & MOBILITY

"from the MOUNTAINS to the COAST"

N.C.D.O.T. STRUCTURES MANAGEMENT UNIT

TIM SHERRILL, P.E. STAFF ENGINEER - PRESERVATION & REPAIR



TITLE

TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS TMP - 1 LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND TMP-1A

GENERAL NOTES TMP-2

SHEET NO.

TEMPORARY TRAFFIC CONTROL PHASING TMP-3

US 70 PHASE I STEP 1 TMP-4,5,6,7US 70 PHASE II STEP 1 TMP-8,9 US 70 PHASE II STEP 2 TMP-10,11

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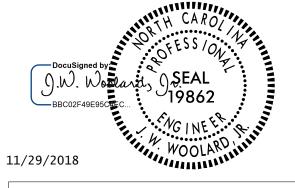
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SENIOR TRANSPORTATION ENGINEER

JAY WOOLARD, PE

BEN KEFFER

TRANSPORTATION DESIGNER



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TMP-1

PROJ. REFERENCE NO. SHEET NO. TMP-1A

# **LEGEND**

# ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	<u>TITLE</u>
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1150.01	FLAGGING DEVICES
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - DIVIDED AND UNDIVIDED HIGHWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES

#### GENERAL

DIRECTION OF TRAFFIC FLOW

——— EXIST. PVMT.

PROPOSED PVMT.

- - TEMP CHOPING (LOCATION PURE

TEMP. SHORING (LOCATION PURPOSES ONLY)

WORK AREA

NORTH ARROW

PREVIOUSLY STARTED / CONCURRENT CONSTRUCTION

PAVEMENT REMOVAL

TEMPORARY PAVEMENT

TEMPORARY PAVEMENT ASPHALT PAD

TEMPORARY PAVEMENT BREAKDOWN LANE

### PAVEMENT MARKINGS

EXISTING LINES			
TEMPORARY MARKINGS	PREVIOUSL PLACED	<u>.Y</u>	
		WHITE EDGE LINE	
		YELLOW EDGE LINE	
		BROKEN LANE LINES	
		MINISKIP LANE LINES	
		DOUBLE YELLOW LINES	
		GORELINE	
		STOP BAR	

# PAVEMENT MARKING SYMBOLS

EXISTING PAVEMENT MARKING SYMBOLS (HOLLOW)

TEMPORARY
SYMBOLS
PREVIOUSLY
PLACED

144

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING ALPHANUMERIC CHARACTERS

## TRAFFIC CONTROL DEVICES

TEMPORARY PREVIOUSLY
DEVICES PLACED

BARRICADE (TYPE III)

CONE

DRUM

FLASHING ARROW BOARD

LAW ENFORCEMENT

TRUCK MOUNTED ATTENUATOR (TMA)

**FLAGGER** 

CHANGEABLE MESSAGE SIGN

TEMPORARY CRASH CUSHION

TEMPORARY CRASH CUSHION RESET

PORTABLE CONCRETE BARRIER

PORTABLE CONCRETE BARRIER (RESET)

ANCHORED CONCRETE BARRIER

ANCHORED CONCRETE BARRIER (RESET)

#### SIGNALS



#### TEMPORARY SIGNING

TEMPORARY PREVIOUSLY PLACED

PORTABLE SIGN

PORTABLE SIGN

STATIONARY SIGN

STATIONARY OR PORTABLE SIGN

# PAVEMENT MARKERS

CRYSTAL/CRYSTAL

CRYSTAL/RED

YELLOW/YELLOW



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ROADWAY STANDARD DRAWINGS, AND LEGEND

#### PROJ. REFERENCE NO. SHEET NO. 15BPR.31 TMP-2

# **GENERAL NOTES**

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

#### TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
US 70	6:00 A.M9:00 A.M. MONDAY THRU FRIDAY 4:00 P.M7:00 P.M. MONDAY THRU FRIDAY

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL **EVENTS AS FOLLOWS:** 

ROAD NAME US 70

#### **HOLIDAY**

- 1) FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES. AS DIRECTED BY THE ENGINEER.
- 2) FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31ST TO 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
- 3) FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
- 4) FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
- 5) FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF INDEPENDENCE DAY AND 7:00 P.M. THE FOLLOWING MONDAY AFTER THE WEEK OF INDEPENDENCE DAY.
- 6) FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 7:00 P.M. WEDNESDAY.
- 7) FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
- 8) FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
- 9) FOR THE "WINGS OVER WAYNE AIR AND SPACE EXPO", BETWEEN THE HOURS OF 6:00 AM APRIL 26TH AND 7:00 PM APRIL 30TH.

#### LANE AND SHOULDER CLOSURE REQUIREMENTS

- C) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE. CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
  - WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

#### PAVEMENT EDGE DROP OFF REQUIREMENTS

F) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 FT IN ADVANCE AND A MINIMUM OF ONCE EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

#### TRAFFIC PATTERN ALTERATIONS

G) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

#### SIGNING

- H) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- I) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- J) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 500 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

#### PAVEMENT MARKINGS AND MARKERS

K) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

**ROAD NAME** MARKER MARKING **ALL ROADS** PAINT NONE

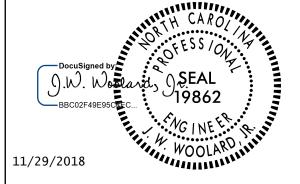
- L) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- M) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

#### **MISCELLANEOUS**

- N) ALL DIMENSIONS AND STATIONS IN THE TRANSPORTATION MANAGEMENT PLAN AND PHASING ARE APPROXIMATE (+/-); FIELD ADJUST AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
- O) MAINTAIN ALL EXISTING SIGNING ON PROJECT (WARNING, REGULATORY AND GUIDE SIGNS). WHERE CONSTRUCTION AFFECTS THE LOCATION OF A SIGN, RELOCATE AS NECESSARY, OR INSTALL REPLACEMENT SUCH THAT THE FUNCTION OF THE SIGN IS MAINTAINED AT ALL TIMES. DURING RELOCATION OF STOP SIGNS PROVIDE FLAGGERS WITH "FLAGGER AHEAD" (W20-7a) AND "BE PREPARED TO STOP" (W3-4) SIGNS AS NECESSARY TO MAINTAIN INTERSECTION TRAFFIC.
- P) IN THE EVENT OF FALLING DEBRIS OR WATER USE LAW ENFORCEMENT TO DIRECT TRAFFIC BELOW THE BRIDGE.



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**GENERAL NOTES** 

# PHASE I

PRIOR TO ANY WORK OPERATIONS, INSTALL WORK ZONE ADVANCE WARNING SIGNS ON US 70, NORTH GEORGE STREET, AND US 117 PER ROADWAY STANDARD DRAWING 1101.01, SHEET 2 & 3 OF 3.

NOTE: AT THE END OF EACH WORK PERIOD, THE ELEVATION DIFFERENCE BETWEEN THE US 70 EB LANES MUST BE 2 INCHES OR LESS.

NOTE: THE CONTRACTOR SHALL REPLACE ANY PAVEMENT MARKINGS OBLITERATED OR DAMAGED DURING EACH DAY'S OPERATIONS WITH TEMPORARY MARKINGS IN THE FINAL PATTERN PRIOR TO OPENING THE LANE TO TRAFFIC. (SEE FINAL PAVEMENT MARKING PLAN)

STEP 1: (TMP-4 THROUGH TMP-7)

USING SHEETS TMP-4 THROUGH TMP-5, CLOSE LANE 2 OF US 70 EB AND PERFORM THE FOLLOWING:

- REMOVE EXISTING ASPHALT OVERLAY AND ASPHALT PLUG JOINT FROM BRIDGE DECK AND APPROACH SLAB
- MILL EBL APPROACH AS SHOWN IN CONSTRUCTION PLANS

USING SHEETS TMP-6 THROUGH TMP-7, CLOSE LANE 1 OF US 70 EB AND PERFORM THE FOLLOWING:

- REMOVE EXISTING ASPHALT OVERLAY AND ASPHALT PLUG JOINT FROM BRIDGE DECK AND APPROACH SLAB
- MILL EBL APPROACH AS SHOWN IN CONSTRUCTION PLANS

### PHASE II

NOTE: FOR STEPS 1 AND 2, THE CONTRACTOR SHALL REPLACE ANY PAVEMENT MARKINGS OBLITERATED OR DAMAGED DURING EACH DAY'S OPERATIONS WITH TEMPORARY/FINAL MARKINGS IN THE FINAL PATTERN PRIOR TO OPENING THE LANE TO TRAFFIC. (SEE FINAL PAVEMENT MARKING PLAN)

STEP 1: (TMP-8 & TMP-9)

USING SHEETS TMP-8 THROUGH TMP-9, CLOSE LANE 2 OF US 70 EB OR LANE 2 AND 3 OF US 70 WB AND PERFORM THE FOLLOWING:

- REMOVE EXISTING JOINT MATERIAL
- SCARIFY BRIDGE DECK
- PERFORM DECK REPAIRS IN PREPARED AREAS
- OVERLAY PREPARED BRIDGE DECK AND APPROACH SLAB WITH POLYESTER POLYMER CONCRETE
- RECONSTRUCT BRIDGE JOINTS AND INSTALL SILICONE SEALS
- GROOVE POLYESTER POLYMER CONCRETE
- PLACE APPROACH PAVING IN EBL
- PLACE FINAL PAVEMENT MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS

NOTE: TRAFFIC SHALL NOT RUN ON A SCARIFIED DECK SURFACE. IF BRIDGE DECK IS SCARIFIED, PPC OVERLAY MUST BE PLACED ON THE BRIDGE DECK PRIOR TO REPOPENING TO TRAFFIC.

STEP 2: (TMP-10 & TMP-11)

USING SHEETS TMP-10 THROUGH TMP-11, CLOSE LANE 1 OF US 70 EB OR WB AND PERFORM THE FOLLOWING:

- REMOVE EXISTING JOINT MATERIAL
- SCARIFY BRIDGE DECK
- PERFORM DECK REPAIRS IN PREPARED AREAS
- OVERLAY PREPARED BRIDGE DECK AND APPROACH SLAB WITH POLYESTER POLYMER CONCRETE
- RECONSTRUCT BRIDGE JOINTS AND INSTALL SILICONE SEALS
- GROOVE POLYESTER POLYMER CONCRETE
- PLACE APPROACH PAVING IN EBL
- PLACE FINAL PAVEMENT MARKINGS AS SHOWN IN THE PAVEMENT MARKING

NOTE: TRAFFIC SHALL NOT RUN ON A SCARIFIED DECK SURFACE. IF BRIDGE DECK IS SCARIFIED, PPC OVERLAY MUST BE PLACED ON THE BRIDGE DECK PRIOR TO REPOPENING TO TRAFFIC.

REPEAT STEPS 1 AND 2 UNTIL ALL REQUIRED WORK IS COMPLETED ON US 70 EB AND WB

STEP 3:

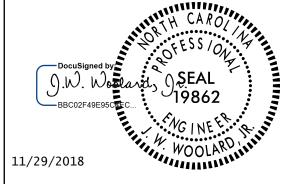
USING RSD 1101.02 SHEET 1 OF 14, ON NORTH GEORGE STREET AS NECESSARY, PERFORM THE FOLLOWING:

- REPAIR SUBSTRUCTURE AS SHOWN IN THE CONSTRUCTION PLANS
- REPAIR DAMAGED STEEL BEAM AND DIAPHRAGM
- PAINT EXISTING STEEL BEAMS

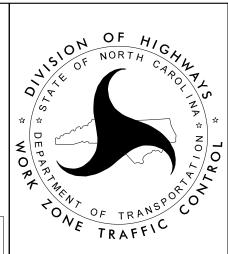


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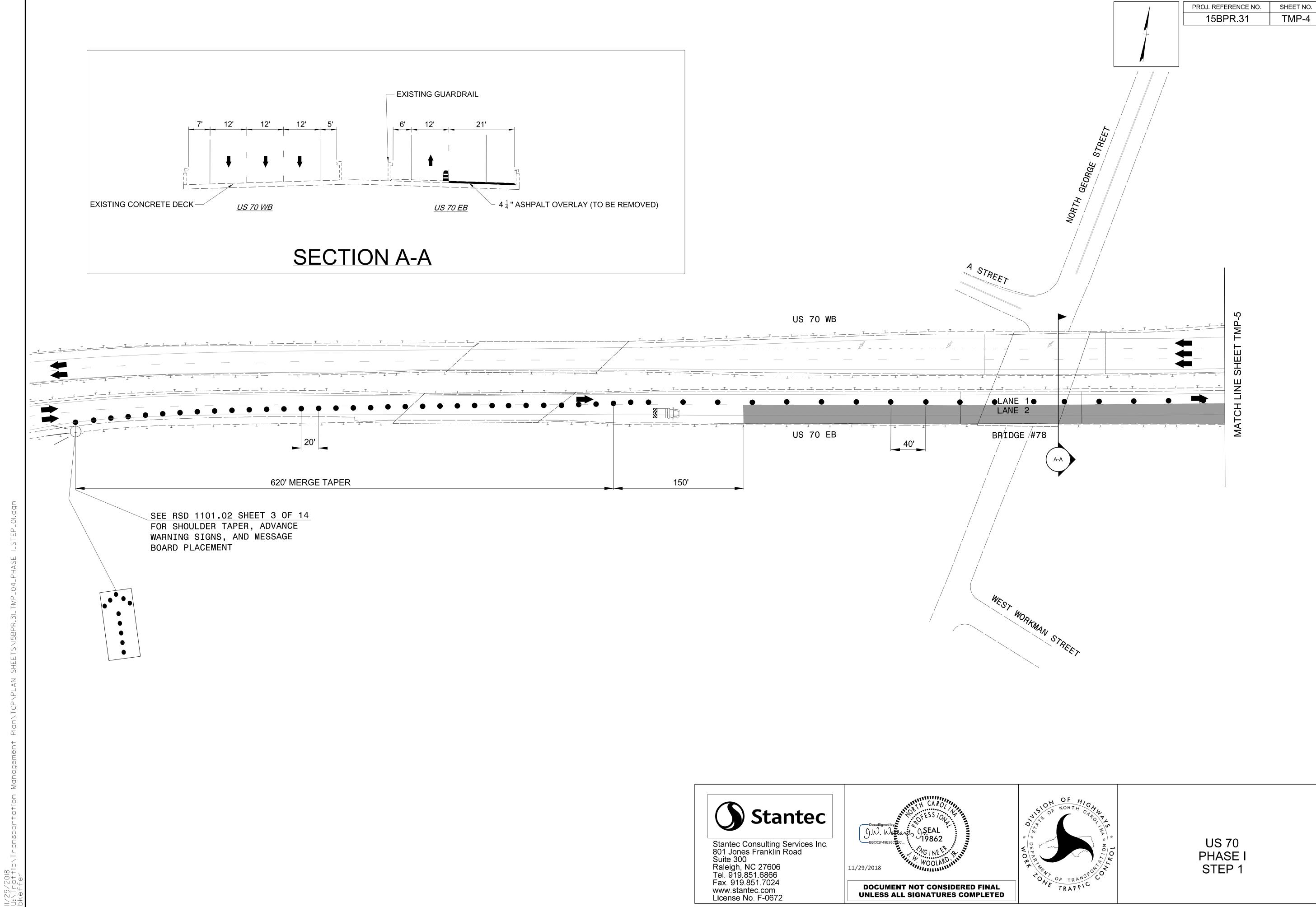
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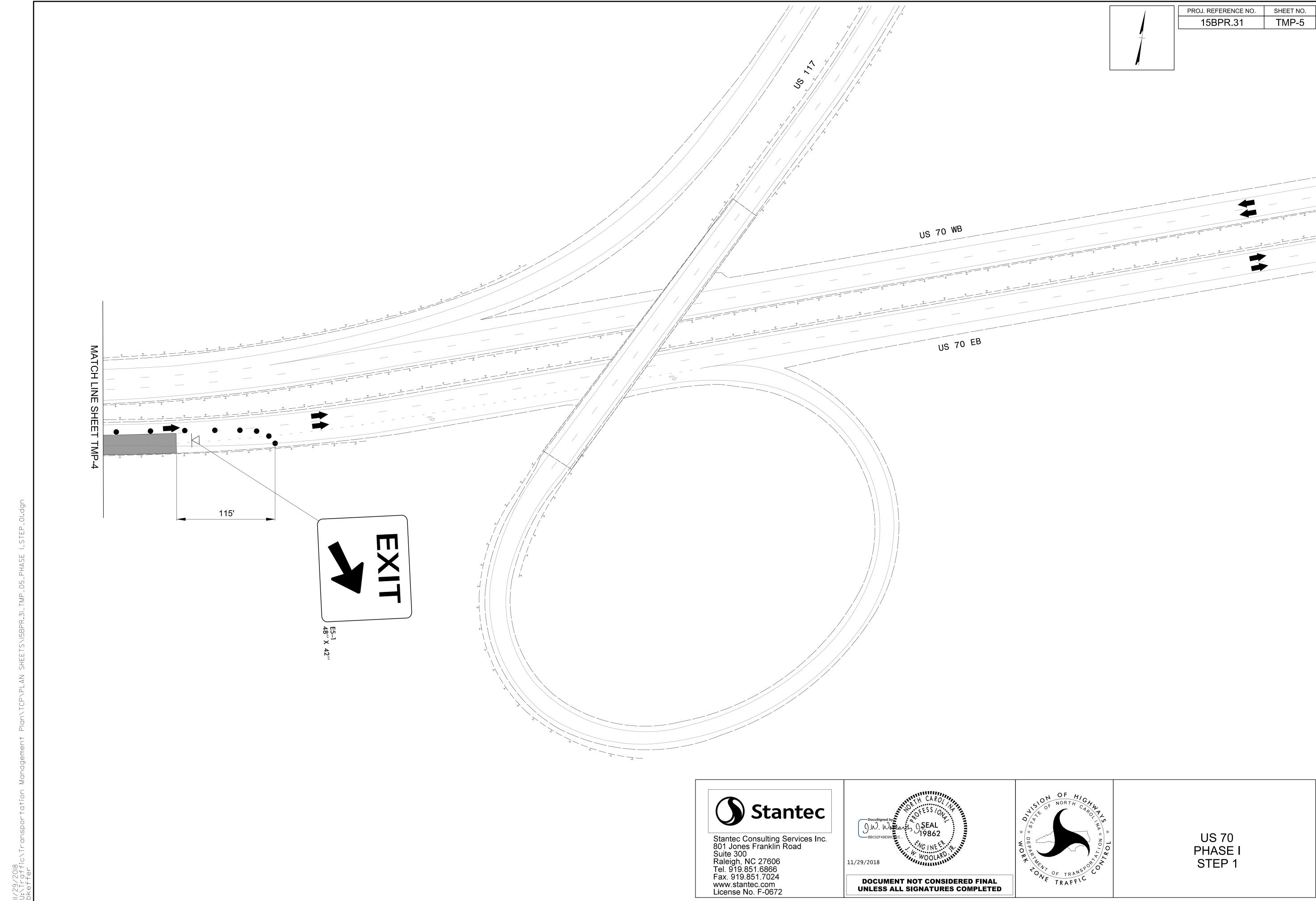


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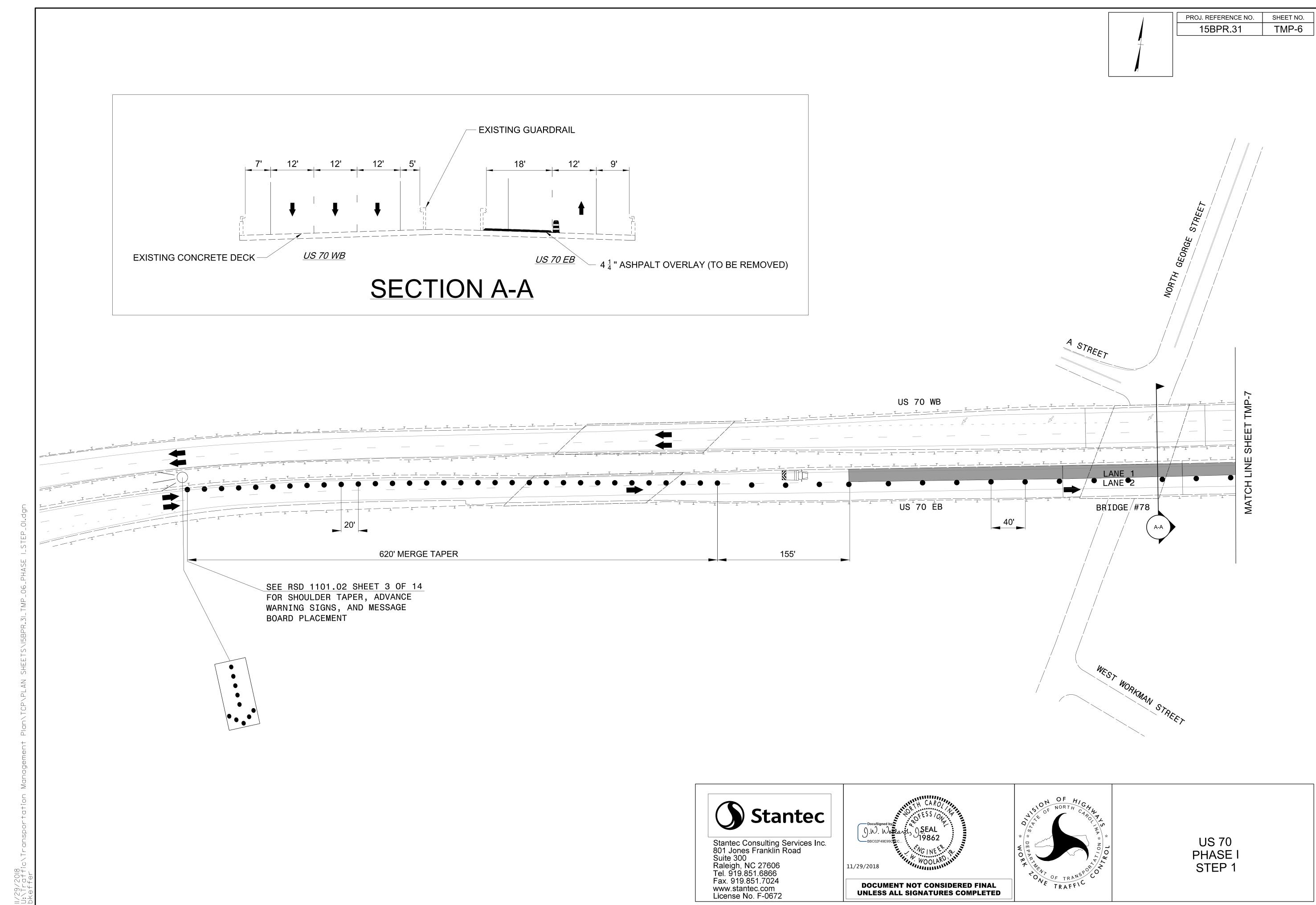


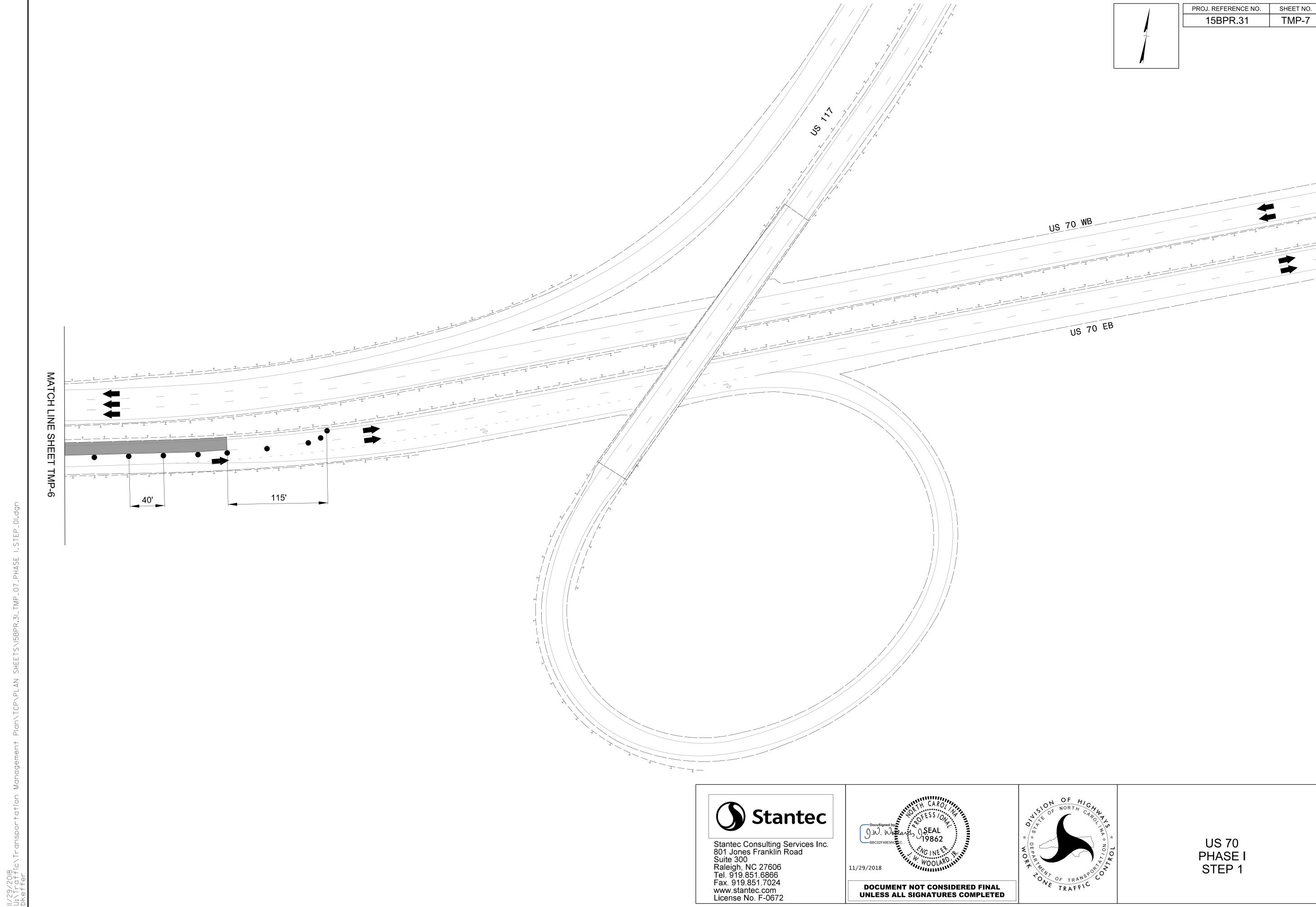
PHASING

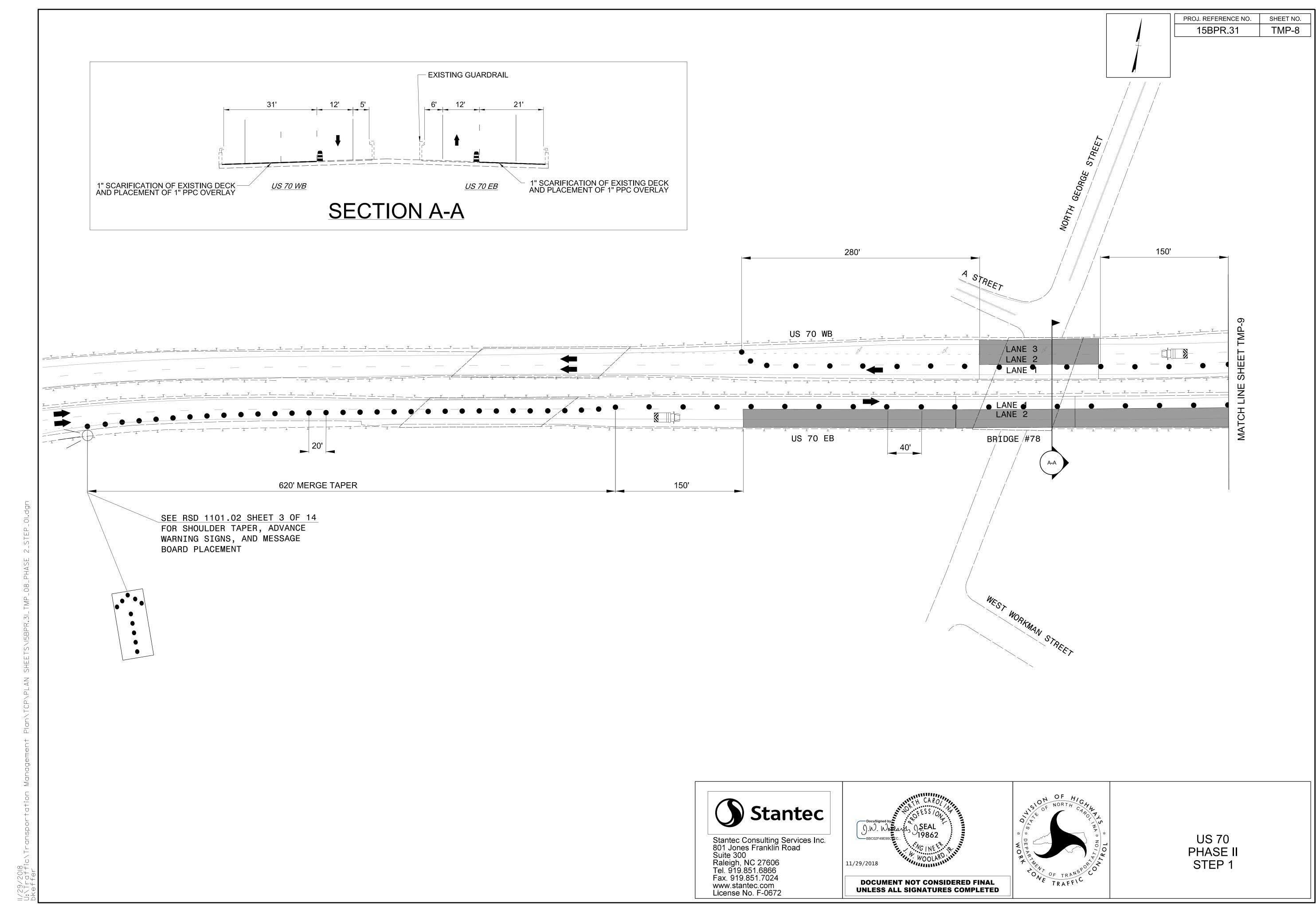


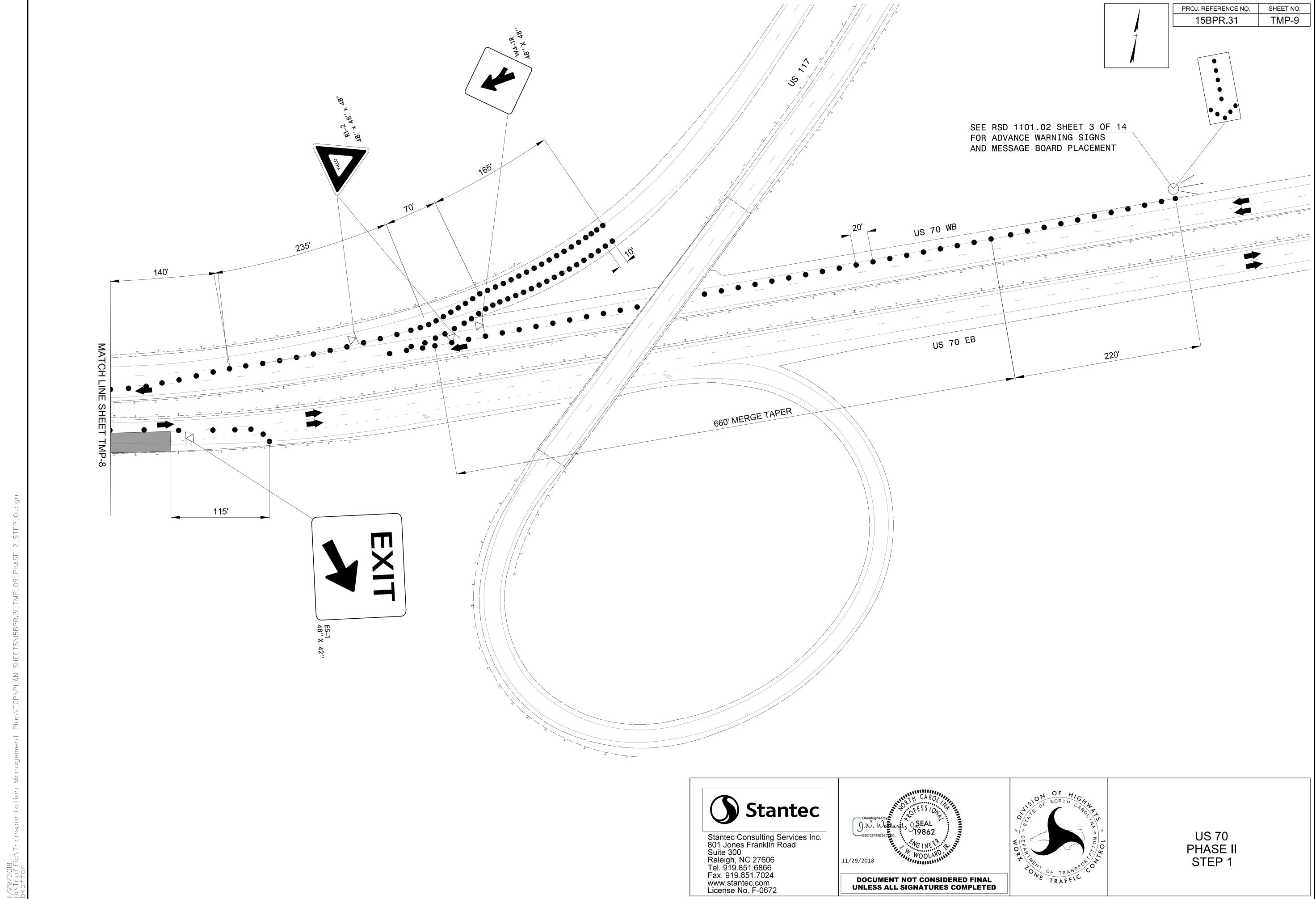


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